Responses to CDH Comments on September 1993
Final Technical Memorandum #10
Development of Remedial Action Objectives
881 Hillside Area (Operable Unit 1)
Rocky Flats Plant

Comment 1

Table 2 1 Contaminants of Concern by Media This Table limited the list of OU 1 contaminants to only those that were quantitatively evaluated in the Baseline Risk Assessment (BRA) Many OU 1 contaminants were dropped from evaluation in the BRA because either toxicity values are not available or a toxicity screen showed they did not drive risk However many of these contaminants have potential chemical specific ARARs It is imperative to the development of RAOs that an accurate and complete list of OU 1 contaminants and media of interest be utilized Therefore the Division requires that DOE include all contaminants identified in the RFI/RI Report in Table 2 1

Response

The table has been revised to include all of the COCs initially identified in the RFI/RI report (prior to the baseline risk assessment screening) Potential chemical specific ARARs are listed for these contaminants later in the document

Comment 2

Table 2 2 Potential Exposure Routes and Pathways This Table is limited to 'Predominant Exposure Pathways and Contaminants The Division requests clarification of 'Predominant as it is being applied in this summary table

Response

Due to the number and complexity of BRA exposure scenarios, this table has been removed from the document The text has been revised to indicate the primary exposure routes for human receptors and to clarify the relationship between these routes and PRG development

Comment 3

Remedial Action Objectives The Division is uncertain what DOE means by the term point of departure in the statement of Remedial Action Objectives The Division requests clarification of the intent and application of the term point of-departure as stated in the RAOs and the relationship between point of departure and the $1x10^{-4}$ to $1x10^{-6}$ risk range

The Division does not agree that the remedial action objectives should be stated as risk ranges Stating a RAO as a maximum risk range conveys that the actual goal is the upper bound on the

risk range It is the Division s position that the initial goals for RAOs be set at the $1x10^{-6}$ risk level

Response

The point of departure concept is called out in the NCP and refers to the risk level at which each COC is set within a given medium to back calculate a PRG concentration for that chemical The range is necessary because of the way PRGs are calculated As discussed above a PRG is calculated for each COC based on a risk level of 10^{-6} If more than one COC is present in the medium of interest then the overall risk will naturally result in a level slightly higher than 10^{-6} The PRG discussion which follows the presentation of RAOs goes into great detail describing how risk based PRGs target the 10^{-6} risk level

Stating risk ranges for acceptable levels of protection is discussed in both EPA s *Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA* and *Guidance on Remedial Actions for Contaminated Groundwater at Superfund Sites* In order to clarify the text in the document reference to the point-of departure has been removed from the bulleted list of RAOs and a sentence added that explains why a risk range is presented

Comment 4

Section 2.4.1 Potential ARARs The document explains that, although preliminary ARARs have been listed the identification of ARARs will take place after the selection of alternatives in the FS The Division agrees that the final selection of ARARs will take place after the selection of alternatives however since ARARs can actually influence the selection of remedial alternatives we believe that a preliminary list of ARARs must be identified early and be as complete as possible in order to ensure that resources are not wasted exploring potentially useless alternatives

1) Doctrine of Sovereign Immunity This paragraph makes no sense to us Please explain keeping in mind that CERCLA Section 120 (a)(1) requires that federal facilities comply with CERCLA in the same manner and to the same extent both procedurally and substantively (this includes ARARs) as any private facility

2) State Groundwater Standards The Division disagrees with the facts and conclusions presented in this paragraph The State does have an established funded permit program But in any event this fact is irrelevant to the determination of whether Colorado s Water Quality Standards are ARARs These standards are applicable ARARs because they are legally enforceable and are generally application and therefore, have been promulgated within the meaning of the NCP

3) State Drinking Water Standards The Division agrees with the EPA that all State and Federal requirements which are applicable or relevant and appropriate must be identified as ARARs at this stage regardless of whether they are duplicative of or less stringent than their respective counterpart This is particularly true here where State drinking water standards unlike Federal drinking water standards are applicable ARARs (see #4 below)

4) Federal Drinking Water Standards The Division agrees that federal MCLs and MCLGs may not be considered applicable ARARs, but we disagree with DOE s explanation in support of this fact The document explains the nature of the hydrology beneath OU 1 is such that use of this water as a future source of drinking water is unlikely due to its seasonal presence as described in the RFI/RI This statement, however is not substantiated by the RFI/RI Report and is therefore not relevant to the classification of ARARs Federal MCLs may be relevant and appropriate as opposed to applicable because as the preamble to the National Contingency Plan (NCP) explains since MCLs are usually only legally applicable under the SDWA to the quality of drinking water at the tap there will be few instances in which MCLs are applicable to cleanup of groundwater at a Superfund site (See discussion on Section 300 430 (e)(2)(i)(B) On the other hand State drinking water standards are applicable ARARs because compliance is not measured solely at the tap

The Division would like to clarify that consistent with the NCP non zero MCLGs should be identified as relevant and appropriate ARARs when necessary Only if the non zero MCLG is determined not to be relevant and appropriate does the MCL become a potential ARAR

Response

In accordance with CERCLA ARARs should not influence the selection of remedial alternatives The CERCLA FS process is a contaminant and technology driven procedure through which technologies and alternatives are developed and screened based on their technical effectiveness implementability and cost The purpose of the ARAR compliance portion of the detailed analysis of alternatives is to determine whether an alternative will comply with all of its respective ARARs The approach is reinforced by the fact that an ARAR waiver is available if an alternative is found to offer the best practical approach to remediation and yet may not comply with all of its identified ARARs

Regardless the focus of this technical memorandum is to present chemical specific ARARs and risk based PRGs Text referring to other ARARs has been minimized to avoid confusion and the attachment presenting the preliminary list of all potential ARARs has been removed from the document The attachment has been replaced by surface water ARARs originally presented in Section 2 4 1 Action specific ARARs will be presented in Technical Memorandum #11 after remedial actions have been proposed Location specific ARARs will be identified in the detailed analysis of alternatives

1) Doctrine of Sovereign Immunity Traditionally sovereign immunity is a doctrine which precludes a litigant from asserting an otherwise meritorious cause of action against a sovereign unless the sovereign consents to suit Any waiver of the National Government s sovereign immunity must be unequivocal Waivers of immunity must be construed strictly in favor of the sovereign and not enlarged beyond what the language requires The Clean Water Act waives federal sovereign immunity for requirements respecting control and abatement of water pollution in 33 U S C Section 1323(a) However the statute does not define whether water includes surface water and groundwater Thus while the focus of the statute is on surface water the issue is whether the regulatory provisions of the statute may be extended to regulation of groundwater Because the statute does not apply clearly and unambiguously to groundwater DOE reserves its right to argue that the United States has not waived its sovereign

immunity to permit State groundwater regulation of any kind at a federal facility Since the State groundwater regulations are arguably not enforceable at a federal facility the State groundwater regulations can not be ARARs at a federal facility The State groundwater standards will be listed as TBCs and will be considered in determining clean up standards for the Record of Decision This issue should be discussed in the Agencies ARARs working group

2) State Groundwater Standards State Water Quality Standards for groundwater have been included as potential to-be-considered (TBC) criteria for OU 1 The appropriate tables have been revised in the document to include these standards See response to comment above

3) State Drinking Water Standards The requirement that State standards be more stringent than Federal standards for consideration as ARARs is taken directly from the NCP and CERCLA 121(d) Chemical specific ARARs are used solely to determine preliminary remediation goals and should be as concise as possible Adding State Drinking Water Standards to the list of potential chemical specific ARARs would directly conflict with the intent of the more stringent than requirement State Drinking Water Standards may be considered later as action specific ARARs depending on where requirements under these standards differ than those under the Federal SDWA

4) Federal Drinking Water Standards The revised technical memorandum will not attempt to differentiate between applicable requirements or relevant and appropriate requirements This analysis will be conducted for each ARAR included in the detailed analysis of alternatives and will be presented at that time RAOs and PRGs simply require the identification of potential chemical specific ARARs and do not require a distinction to be drawn between the types of ARARs included For these reasons the arguments initially presented in the technical memorandum will be removed from the document

The document will also be revised to clarify the fact that non zero MCLGs are potential chemical specific ARARs as well as MCLs The document will not state whether or not either criterion is applicable or relevant and appropriate as discussed above

Comment 5

Page 23 Soil Specific Chemical Requirements - The statement soil specific chemical requirements under State and Federal laws do not exist, is a very broad statement that may or may not be true The Division requests more information on the basis for this conclusion

Response

Soil specific chemical requirements under State and Federal laws do not exist for the contaminants identified in OU 1 The text will be revised to include this qualifying statement concerning OU 1

Comment 6

Table 2 3 Potential ARARs National Primary Drinking Water Standards This Table is incomplete and inaccurate Values must be reported for all contaminants at the site not just those identified in the Baseline Risk Assessment as COCs The correct MCL and MCLG standards for selenium are 0 05 (mg/L), not 0 5 as reported Additionally, all potential chemical specific ARARs for groundwater should be included in this Table not just the National Primary Drinking Water standards

Response

See response to first comment The value for selenium has been corrected as suggested, and additional potential chemical specific ARARs have been added to the revised document to include ARARs which were identified during the comment period

Comment 7

Page 19 Quantitation Limits The statement actual sample quantitation limits have been historically much higher than the CRQLs presented in the tables is perplexing Actual quantitation limits are required by EPA under the contract laboratory program to be at or below the Contract Required Quantitation Limit (CRQL) If this is indeed the case then the Division recommends an immediate review of the analytical methodology being implemented If current analytical methods are not meeting data quality requirements then the methods must be reviewed and updated The Division does not consider inappropriate selection of analytical methodology by DOE a reason to modify remedial goals The Division requests documentation of when and why DOE expects this to occur and what steps are being implemented to minimize its occurrence This request should be addressed independent of Technical Memorandum No 10

Response

The statement referenced above has been removed from the document Because surface soils will be addressed under Operable Unit 2, the issue is not relevant to OU 1 However in general sample quantitation limits do not always result in values equal to or less than CRQLs Sample matrices and other factors can affect quantitation limits and can result in higher than normal results The comment suggests that inappropriate selection of analytical methodology is not a reason to modify remediation goals however remediation goals are very often modified because they are below technically achievable quantitation limits Colorado Water Quality Standards for groundwater in particular have several chemicals identified with concentration standards set below State recognized practical quantitation limits (carbon tetrachloride and 1 2 dichloroethene are two examples) The State regulations recognize the discrepancies and suggest that PQLs be used as the goals in these cases These issues will be covered in greater detail during the detailed analysis of alternatives if the groundwater medium is affected As suggested in the comment, quantitation limits are being addressed independent of the technical memorandum Any resolutions obtained on the issues presented will likewise be incorporated in the CMS/FS report

Comment 8

Page 19 Verification of PRG Achievement The Division requests clarification of the statement It may be impossible to verify that PRGs have been achieved (after remedial action) using conventional analytical techniques Specific examples of when the DOE does not expect to be able to verify achievement of PRGs, the conventional analytical techniques employed and what actions are being taken to improve on the techniques and minimize this situation should be included in this response

Response

See response to comment above

Comment 9

Tables 2 5, 2 7, 2 8 Risk Based PRGs The Division requests the submittal of detailed information on how these PRGs were calculated Without this information the Division cannot comment on the appropriateness of the reported values The Division is deferring judgement on these values pending review of this information The Division further recommends that risk based PRGs be calculated for all COCs and scenarios, not just those reported as greater than $1x10^{-6}$ risk or a hazard index of unity This will insure that risk based PRGs are readily available for all contaminants if needed in the future

Response

The technical memorandum has been revised to include much greater detail concerning the development of risk based PRGs Equations and assumptions used for the calculations have been included in the document An appendix has also been added to the document which includes the spreadsheets used to calculate certain PRGs

DOE disagrees with the concept of presenting PRGs for all of the contaminants originally identified in the RFI/RI The purpose of the risk based screening is to weed out contaminants that don t have toxicity constant information available and to focus remedial action evaluation on those contaminants that drive the risk to human health Adding all of the contaminants originally identified during the characterization phase of the RFI/RI defeats the purpose of conducting the screening in the first place and confuses the issue of which contaminants are driving the risk However as the comment requests risk based PRGs will be presented for all of the contaminants identified in the RFI/RI (when toxicity constants are available) It should be noted that in some cases, PRGs were estimated by linearly reducing source concentrations used in the PHE until the corresponding risk was below 10^{-6}, or until the hazard index was below one This was necessary for pathways that utilized a model to determine exposure concentrations (i e , volatile organics in buildings) Where this was done the estimated concentration was input into the original model to verify that the resulting risk/hazard index was equal to 10^{-6}/one where appropriate Consequently, PRGs could not be estimated for contaminants that were originally not included in the PHE with these pathways

Comment 10

ATTACHMENT I Potential ARARs

The list of ARARs identified in Attachment I is incomplete however in order for the State to further identify which potential ARARs are missing particularly for action specific and location specific ARARs this document needs to contain more information on OU 1 (e g an identification of historic places or wetlands a description of physical characteristics of the unit etc)

1) Some potential ARARs are listed instead as TBCs including
   a Secondary maximum contaminant levels 40 CFR Part 143 (page 1),
   b U S NRC Standards, 10 CFR 20 Subpart C (page 2)
   c Colorado Water Quality Standards 5 CCR 1002 8 3 11 0 (page 4)
   d Radioactive Material Standards 6 CCR 1007 1 1 (page 5)
   e Colorado Water Quality Standards 6 CCR 1007 3 5 CCR 1002 8 (page 15)
   f Soil Erosion Dust Blowing Act CRS 35 72 101 (page 17)

   Please correct or explain

2) Some potential ARARs are missing from the action specific list including
   a Toxic Pollutant Effluent Standards 40 CFR 129
   b Various Colorado Water Quality Control Act requirements (e g 5 CCR 1002 8 Sections 3 12 0, 3 1 8 3 2 0)
   c Various Colorado Ambient Air Quality Standards (e g 5 CCR 1001 4 1001 4)
   d Wetlands requirements (e g 40 CFR 6, Appendix A, 40 CFR Part 230)
   e Land Disposal Restrictions 6 CCR 1007 3 Part 268
   f Air Pollution Control Regulations 5 CCR 1001 9

   Please correct or explain

3) Why is Colorado Ambient Air Quality Standard 5 CCR 1001 14 (page 5) not considered a potential ARAR?

4) Why are Guidelines for Land Disposal of Solid Waste, 40 CFR Part 21 not considered potential ARAR?

5) Why is criteria for Municipal Solid Waste Landfills 40 CFR, Part 258 (page 9) not considered a potential ARAR?

6) Please note that ARARs can be both action specific and chemical specific therefore the derived alpha activity limit for disposal of materials in soils, 6 CCR 1007-1, 4 19, can be an action specific ARAR See page 15 For this same reason the Land Disposal Restrictions 6 CCR 1007 3 Part 268 and 40 CFR Part 268 are both chemical and action specific ARARs

Response

As agreed to during comment resolution meetings held on January 28 and February 1 1994, this attachment will be modified to only include potential surface water ARARs for OU 1 The extended list of ARARs will be included in the CMS/FS report with potential action specific ARARs initially being presented in Technical Memorandum #11